

Crash Number:

12-0580-12

Location:

South Center Boulevard, City of Springfield, Clark County, Ohio

Crash Date:

June 13, 2021

Primary Investigating Officer:

Trooper B. Boutot, Ohio State Highway Patrol, Springfield

Reconstruction Case Number: 21-2614-12

Crash Reconstruction

Involvement Date:

June 14, 2021

Reconstruction Aids:

- Ohio State Highway Patrol Crash Report # 12-0580-12
- Photographs of the crash scene and involved vehicle¹
- Scale Diagram of the scene
- Crash Zone (Forensic mapping software ver. 10.6)
- Airbag Control Module from vehicle

Reconstructive Efforts Requested:

- Forensic mapping of the crash scene.
- Roadway Evidence- Scene Evaluation
- Determine any contributing circumstances for the crash.

The following is my report generated to supplement the investigation of the above listed crash by the local Ohio State Highway Patrol post. Documentation includes information obtained by the primary investigating trooper as well as information obtained through my own investigation. It should be noted this report is not an exhaustive analysis of all available information and is subject to revision as additional information becomes available, is requested or is further analyzed.

Respectfully Submitted,

Ohio State Highway Patrol

Trooper J.J. Smith

¹ Ohio State Highway Patrol Photographic Services





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1.0 Crash Information

L1 Crash Synopsis:

On June 13, 2021, at approximately 11:21 P.M., officers with the Springfield Police Department received a dispatch for all available units on a report of a male shot at 1047 South Center Boulevard. Of those units responding was Officer Amanda Rosales driving a 2019 Ford Explorer marked Springfield Police Department police cruiser number 70. While en route to the address on South Center Boulevard, a pedestrian, Eric Cole was lying in the roadway and was subsequently ran over by Officer Rosales.

On June 14, 2021, at approximately 12:07 A.M., the Springfield Post of the Ohio State Highway Patrol was requested by the Springfield Police Department to investigate the crash involving the pedestrian, Eric Cole and Officer Rosales. The crash occurred on South Center Boulevard just south of West Perrin Avenue, within the city limits of Springfield, Clark County, Ohio.

1.2 Crash Report (OH-1) Summary:

The Ohio State Highway Patrol, Springfield Post, generated traffic crash number 12-0580-12 and was completed by Trooper B. Boutot, unit 195, as the primary investigating trooper for the crash and included the following:

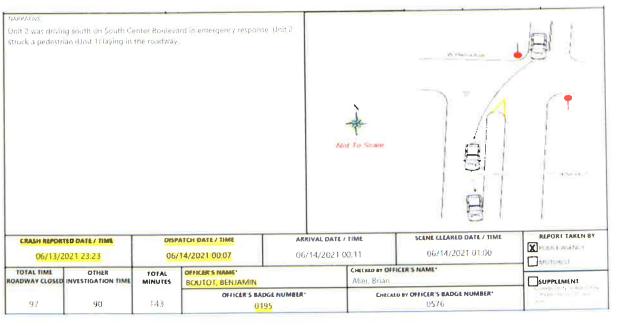
- 1. OH-1 Form (to include occupant/witness addendum)
- 2. OH-2 Narrative Forms/Field Sketch
- 3. OH-3 Traffic Crash Witness Statements.

The traffic crash report documented the following:

Figure 1

The image to the right is an excerpt from Crash Report 12-0580-12. As highlighted the Crash Reported Date/Time was 06/13/2021 23:23 and the Dispatch Date/Time was 06/14/2021 00:07.

The report was completed by Trooper B. Boutot with a narrative as depicted in the image.



Unit 1

- > Eric Eugene Cole
- > Pedestrian: Springfield, Ohio
 - O Sustained a gunshot wound prior to the crash.
 - Later succumbed to injuries at hospital

Unit 2

- ➤ White 2019 Ford Explorer
 - VIN: 1FM5K8AR8KGB45451
 - o Springfield Police Department #70
 - Recalls 11: 0 Unrepaired Recalls associated
- > Owner: City of Springfield, Springfield, Ohio
- > Driver: Amanda M. Rosales, Springfield, Ohio
 - o No apparent injury

Due to the nature of the crash, an in-depth crash investigation was conducted by the Ohio State Highway Patrol Crash Reconstruction Section and the Office of Criminal Investigation Services.

2.0 Reconstruction Unit Response

2 ERequest for Assistance Response:

On June 14, 2021, Sergeant E. Magoto, Piqua District Crash Reconstruction supervisor, was contacted by the Springfield Post and informed of the aforementioned crash investigated by troopers earlier that same morning. I was then contacted and asked to make contact with the Springfield Police Department reference an image of the airbag control module from the police cruiser that was involved.

In addition to the imaging of the Ford's Restraint Control Module (RCM), a forensic map of the scene was completed. Moreover, in car camera video was obtained from the police cruiser that struck the pedestrian and also the police cruiser that was following.

To aid the use of the video in a speed analysis through video analysis, the police cruiser's profile was mapped using the Trimble SX10 robotic total station. In addition to the vehicle profile, the field of view for the camera at the time of the crash was mapped. This is completed by determining the outermost limits of the camera's field of view as seen on the in car computer screen. Lieutenant M. Buynak with the Springfield Police Department, assisted in the completion of finding the camera's field of view.

2.2 Objectives:

The purpose of this report is an analysis of information obtained from, initial responding troopers, witness statements, and information gathered from investigation done for reconstruction efforts. As previously stated, this report in its entirety is not an exhaustive analysis of all available information and is subject to revision as additional information becomes available, is requested or is further analyzed. Focus is on aiding the primary investigating trooper, Trooper B. Boutot, through adding, confirming, or challenging information gathered during the investigation of the crash. Emphasis will be on the contributing circumstances surrounding the vehicle involved.

3.0 Reconstruction Analysis

3.1 Roadway Analysis:

South Center Boulevard traverses north and south within the city limits of Springfield. It is located between East Auburn Avenue to the south and Perrin Avenue to the north. To the north of Perrin Avenue the road is called South Center Street. South Center Boulevard is a median divided roadway separating traffic traveling north or south and creating a one-way traffic flow. This area of South Center Boulevard is residential with a sidewalk adjacent to the road. Additionally, individual sidewalks and drives lead to respective houses.

National Highway Traffic Safety Administration

Ambient lighting in the area of the crash, is one overhead nightlight attached to a pole that is located approximately 78 feet south of the apex of the intersection, on the west side of South Center Boulevard. The next overhead light is roughly 230+ feet away to the south. Other ambient light consists of overhead nightlights on the east side of South Center Boulevard and residential lighting.

The median is constructed of a four (4) inch high concrete curb outlining established grass with various landscaping in the middle. The median measures approximately sixteen (16) feet wide from the edge of South Center Boulevard traveling south to the edge of South Center Boulevard traveling north. The median begins approximately sixty-three (63) feet south of the intersection of Perrin Avenue and South Center Boulevard. The median is then roughly 242 feet in length to the south, ending just north of Parkwood Avenue, allowing vehicle traffic to turn onto Parkwood Avenue. Medians similar to the one just described, in the area of the crash, continue south on South Center Boulevard, breaking at varying places to accommodate traffic. There are no medians south of John Street or north of Perrin Avenue.

The section of the roadway where Eric Cole was lying seemed to be freshly paved. It was confirmed with the Springfield City Service Center that South Center Boulevard had an approximate one to one and half inch overlay patch done in the summer of 2020. This patch was approximately 14 feet wide ^{III}. The posted speed limit sign is south of the first grassy median and is posted as 35 miles per hour.

3.2 Scene Analysis:

The scene analysis will be depicted through photographs taken by on scene troopers with the Springfield Ohio State Highway Patrol.

<u>Image 1</u>

The photograph to the right is taken looking south on South Center Boulevard.

As mentioned in section 3.1, it is glear the color difference in the road. South Center Boulevard was paved with an overlay patch in summer 2020.



III As measured in Crash zone

Image 2

Continuing south on South Center Boulevard. An object is seen in the left portion of the road.



Image 3

Closer to the object in the rondway.



Image 4

Closer to the object, it is a plastic object, potentially from rendering and to Eric Cole. Also blood is noticeable on the payement.



Image 5

Closer to the plastic bag of some sort, in addition to the blood on the pavement.



Image 6

Photo depicting blood transfer from a tire to the pavement.



3.3 Damage Analysis:

3.3.1 Eric Cole (Pedestrian)

Eric Cole was identified as the male lying in the road of South Center Boulevard. As reviewed from the postmortem

examination, Eric Cole was an adult black male; 152 pounds and 72 inches (6 foot). From the video review, Eric Cole was wearing what appears to be a white T-shirt and denim shorts, with dark colored shoes.

Cole was transported via Care flight to Miami Valley Hospital. It was at the hospital that Mr. Cole succumbed to his injuries.

A postmortem examination of the body of Eric Cole, case #21-3223, was completed in Montgomery County. The report was produced by Susan L. Brown, D.O. Forensic Pathologist.

The following is an excerpt of the postmortem report, the full postmortem report, completed by Montgomery County, is available separate from this crash reconstruction

Not to Scale

Figure 2 Cole's Injuries Depicted (as

interpreted)

report. The following are the evidence of injuries Eric Cole sustained as reported by Susan L. Brown, D.O. Forensic

Pathologist. Figure 2 was produced to provide a visual aid of injuries. It is not intended to serve as an exact model of Eric Cole's injuries.

- > Blunt force trauma of the torso (blue):
 - o Abrasions of the back and left lower chest
 - o Laceration of the left shoulder/back
 - o Fracture of the sternum and multiple ribs (left, 1-10)
 - Left hemothorax
 - o Reported clinical history of:
 - Left hemopneumothorax, right pneumothorax, left upper lobe lung laceration with disruption of bronchus:
 - Status post left thoracotomy, left upper lobe tractotomy, and exploratory laparotomy
- ➤ Blunt force trauma of the extremities (orange):
 - o Contusion of the right arm
 - o Abrasions of the arms, left knee, and legs
- ➤ Gunshot wound of the left arm (red):
 - o Entrance: posterior left arm, no soot or stippling, indeterminate or distant range of fire
 - O Pathway: through the skin and soft tissue of the left arm
 - o Recovery: deformed projectile from anterior left arm
 - o Direction: back to front and downward
- Toxicology (hospital blood):
 - o Ethanol
 - o Cocaine

3.3.2 Ford Explorer

The Ford did not receive any contact damage as a result of the crash. What was documented was the transfer of blood onto the vehicle. Blood was located on the left front corner of plastic splash guard below left front fender lmage 8. Blood transfer was located on the left front tire, to include the hub cap and in the wheel well. Image 9. Lastly, blood was visible on the underside of the left rocker panel lmage 10. Troopers on scene noted on the crash report, the headlights were checked and working properly.

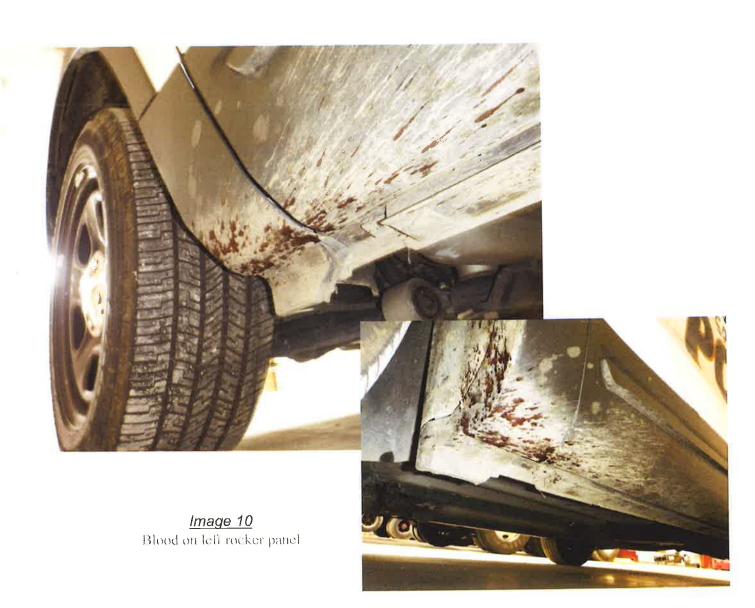




Image 8
Blood on plastic splash guard



(Including hub cap and wheel well)



3.4 Event Data Recorder (EDR) Analysis:

The Ford Explorer was driven from the scene and secured at the Springfield Police Department located at, 120 North Fountain Avenue Springfield, Ohio.

On June 14, 2021, a copy of the Ford's restraints control module (RCM) was obtained with granted consent from the Springfield Police Department. Lieutenant Buynak, Springfield Police Department, was present during the imaging of the RCM.

3.4.1 Ford Explorer

With Lieutenant Buynak present, the module was imaged through the Data Link Connector (DLC), with the power being supplied from the vehicle itself. Using the Bosch Crash Data Retrieval (CDR) system software (ver. 21.1) an image of the data was captured. The Bosch CDR program produced fourteen (14) pages of retrieved information. Some of the information will be explained and briefly provided in this report; however, the entire CDR report is available separate from this report. It should be noted that tire size of all four tires were documented.

The first page includes general information that was entered before the imaging. The entered Vehicle Identification Number (VIN), the user imaging the data, a case number, date of the crash, the date of imaging, date and time the image was saved.

Pages one through six also provide the "data limitations" for the reported information. Looking through the information on page two (2) the one thing to note is under "EDR Data Elements Overview/Interpretation in CDR Report:" 'Event(s) recovered' indicates if an event was detected and recorded by RCM. If no event is detected, it will indicate "none".

CDR F	ile Inf	formati	on

OBIT I NO IIII OTTINACION		
User Entered VIN	1FM5K8AR8KGB45451	
User	Tpr JJ Smith	
Case Number	12-0580-12	
EDR Data Imaging Date	06/14/2021	
Crash Date	06/13/2021	
Filename	1FM5K8AR8KGB45451_ACM12-0580-12.CDRX	
Saved on	Monday, June 14 2021 at 11:50:08	
Imaged with CDR version	Crash Data Retrieval Tool 21.1	
Imaged with Software Licensed to (Company Name)	Ohio DPS - Highway Patrol	
Reported with CDR version	Crash Data Retrieval Tool 21.1	
Reported with Software Licensed to (Company Name)	Ohio DPS - Highway Patrol	
EDR Device Type	Airbag Control Module	
ACM Adapter Detected During Download	No	
Event(s) recovered	None	

<u>Figure 3</u> Ford's EDR excerpt

The remaining CDR report, pages 4-14, is Hexadecimal Data.

3.5 Fideo and Audio Analysis:

As mentioned in section 2.1, video and audio recordings were provided by the Springfield Police Department. The video provided consisted of in car dash camera from car #70, operated by Officer Rosales and car #18, operated by Officer Emory. Officer Emory was the second on scene and was following Officer Rosales when the crash occurred. Upon review of the videos, it should be noted car #70 did not record any audio as part of the video recording. However, car #18 did have audio.

The additional audio recordings received from the police department were the initial 9-1-1 call and the audio from dispatch to the units responding to the call. A breakdown of both audio recordings were completed to better understand the circumstances leading to the crash.

It should be noted the radio traffic breakdown and the 9-1-1 call is not meant to be an exhaustive dialog of the audio recordings in their entirety, the breakdown also may not be the exact language as heard from the recordings. The dialogs are simply written for ease of documenting the circumstances leading to the crash.

The following is a breakdown of the radio traffic:

Multiple officers are heard on the radio to call out their unit number and then "33", to include Officer A. Rosales, 411L, "4 Lincoln".

An inaudible unit: "2 what's the numbers on S. Center?"

Dispatch: 1024

Same inaudible unit: "Clear"

Dispatch: Correction, 4 – 1407 South Center

411L: Readvise the numerics

Dispatch: 411L

An unknown unit: 1047

411L: Could you readvise the numerics on South Center

Dispatch: 1407 South Center

411L: Thank you 512: On scene 411L: On scene 211L: On scene 211E: On scene

The following is a breakdown of the 9-1-1 call received by dispatch. It was later determined the caller on the phone was Eric Eugene Cole.

Dispatch: mama?

Caller: Please come and get me Dispatch: Where are you?

Caller: Fourteen 'O' Seven Center Boulevard, I'm on (inaudible)

Dispatcher: 14-07 (inaudible). What happened?

Caller: I'm about to die
Dispatcher: What happened?
Caller: Somebody shot me

Dispatcher: Where are you shot at?

Caller: Somebody shot me Dispatcher: Where you shot?

Caller: in my arm

Dispatcher: What's your name?

Caller: Somebody about (inaudible), somebody shot me

Dispatcher: Okay, what's your name? What's your name, hun? Hello? What is it?

Inaudible from caller/dispatcher

Caller: my name is Pete

Dispatcher: What is it, Pete? P-E? Caller: yea, I'm dying. I'm dying.

Dispatcher: Who shot you man? Who shot you?

Caller: I'm dying, I'm dying, I don't know who shot me, I'm dying, I'm dying

Dispatcher: Okay, are you inside or outside?

Caller: I'm dying

Dispatcher: Okay, are you inside or outside?

Caller: I'm outside in the street, I'm in the middle of the street Dispatcher: Okay, you don't have no idea who shot you?

Caller: Huh?

Dispatcher: You have no idea who shot you?

Caller: I don't know who it was

Dispatcher: You don't know who shot you sir?

Caller: I'm about to die

Dispatcher: Okay, I have help for ya, I have help for you

Caller: I'm about to die

Caller continues to state he is about to die as the dispatcher is asking additional questions regarding who shot the caller. In addition to the dispatcher continually stating "we have help for you".

Dispatcher: Can I get your phone number? Do you hear the sirens? Do you hear the police?

Caller: They just hit me Dispatcher: Who just hit you?

Caller: The Police

Dispatcher: The police just hit you?

The dialog continues as the phone lines are still open upon the arrival of the police on scene.

3.6 Speed Analysis

A speed analysis will be completed through a video breakdown of the in car camera from Officer Rosales' patrol vehicle. Once completed the calculations will then be compared, in total, to the speed displayed through the camera system. The speed analysis is solely a comparative analysis between calculations done for time over distance and those speeds displayed within the camera system. It is to be understood the speeds calculated through the video breakdown are representative to constant uniform speeds over a given distance for a specific time frame. They do not account for acceleration or deceleration that may be apparent within the video. It is further understood that the speeds displayed within the camera system obtained by global positioning, have a lag time between what is displayed and the actual ground speed of the vehicle.

3.6.1 Video Analysis

As mentioned in section 2.1, the field of view from the camera was mapped using the Trimble SX10 robotic total station. Similarly, after reviewing the video, I returned to the crash site to map key landmarks or reference points leading up to the area of impact, this was done to facilitate the video analysis. Those reference points consisted of a stop sign at the intersection of South Center Street and Perrin Avenue, stop sign at the intersection of Perrin Avenue and South Center Boulevard, a light pole located on South Center Boulevard, and trees located in the center median of South Center Boulevard.

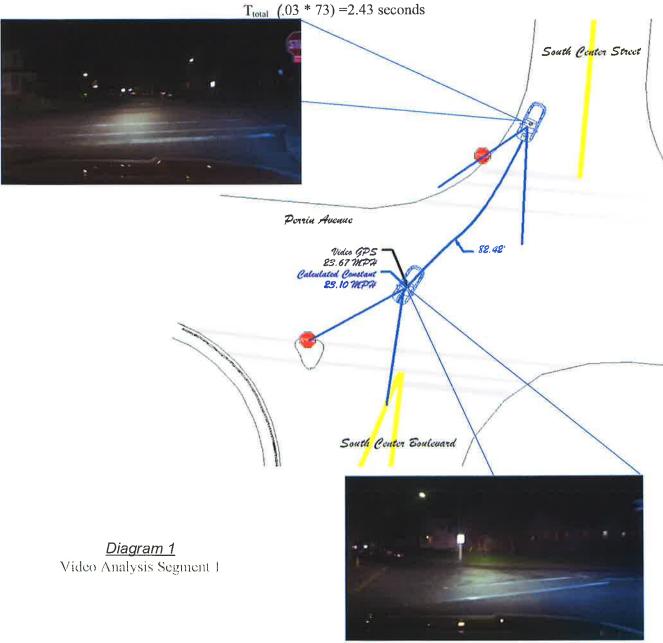
Once located, the reference points were mapped using the Trimble R8s global navigational satellite systems receiver. A forensic map was produced using the collected data. Once produced, a video analysis was conducted to determine a constant speed derived from the distances obtained from the mapped reference points over a given time. Once these speeds are determined, they then can be compared to those displayed and captured through the software of the in car camera.

The video was provided by Springfield Police Department, through the software Data911. The web player was also provided to view the video recording. The frame rate of 29.97 frames per second was provided by Data 911. To confirm this frame rate, the video was sent to the Ohio State Highway Patrol Video Unit. Through their process they determined the frame rate was 30 frames per second. The difference is minimal, with that being said the 30 frames per second will be used in the preceding calculations. With the understanding of the speed at which the video plays, a time, in seconds, per frame is calculated.

Trees are numbered from north to south

3.6.1.1 First Video Segment

In addition to determining a frame rate, the Video Unit produced the still images from the video. With the frame rate known and the stills produced, the number of frames it took to travel from one reference to the next is counted. It took a total of 73 frames for the Ford to travel from the stop sign on South Center Street at Perrin Avenue, through the intersection to the stop sign on Perrin Avenue at South Center Boulevard. The time duration for the given number of frames is calculated.



The total time for this distance is 2.43 seconds. Next the actual distance between those reference points is obtained from the scaled diagram V. This is completed by placing the mapped profile vehicle, containing the mapped camera's field of view, and lining those outer limits to the reference points also mapped. The distance between those points was 82.42 feet.

The equation used is: Velocity= [Distance] / [Time] V= [82.42] / [2.43] =33.87 fps or 23.10 MPH.

V Distance was measured to account for the travel path of the Ford and not a straight line distance

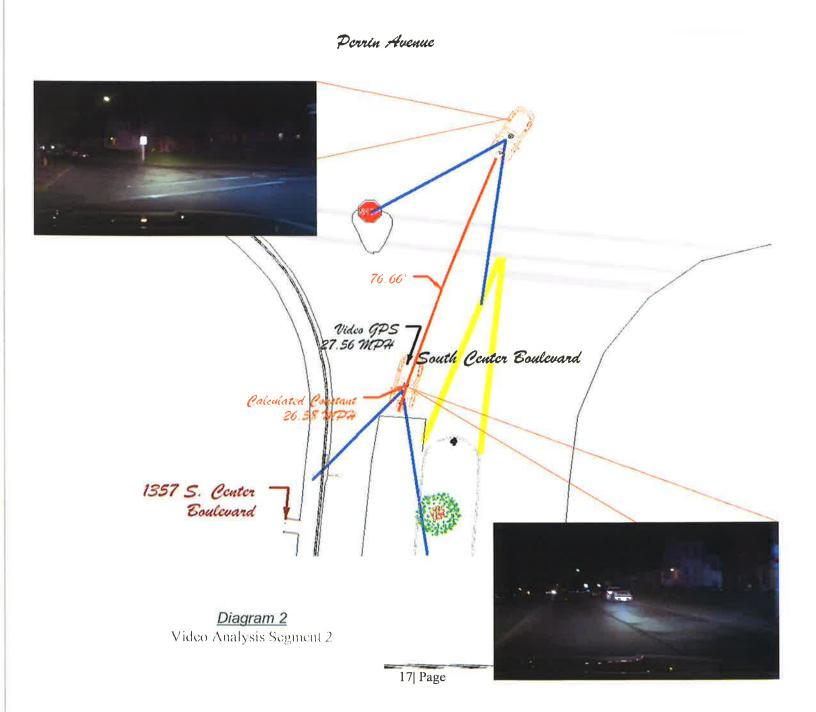
3.6.1.2 Second Video Segment

The next calculations determined the constant speed from the stop sign on Perrin Ave at South Center Boulevard to the first light pole south of the intersection of South Center Boulevard and Perrin Ave. Similar to previous calculations, the total number of frames were 59.

$$T_{\text{total}}$$
 (.03 * 59) =1.96 seconds

The total time for this distance is 1.96 seconds. Then the actual distance between those reference points was found to be 76.66 feet. Then calculate the speed to travel that distance in that time:

Velocity= [Distance] / [Time]
$$V= [76.66] / [1.96] = 38.97$$
 fps or 26.58 MPH.



3.6.1.3 Third Video Segment

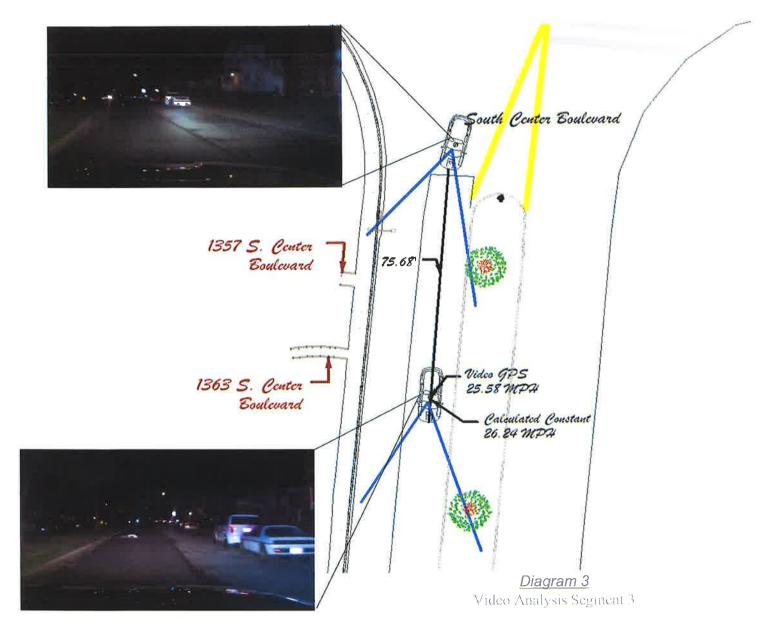
A third constant speed calculated utilized the distance and frame count from the first light pole south of the intersection of South Center Boulevard and Perrin Ave to the second tree south of the intersection tree in the center median. Again the total number of frames were counted and determined to be 59.

$$T_{total}$$
 (.03 * 59) = 1.96 seconds

The total time for this distance is 1.96 seconds. Then the actual distance between those reference points was found to be 75.68 feet. Then calculate the speed to travel that distance in that time:

Velocity= [Distance] / [Time]

V=[75.68]/[1.96] = 38.48 fps or 26.24 MPH.

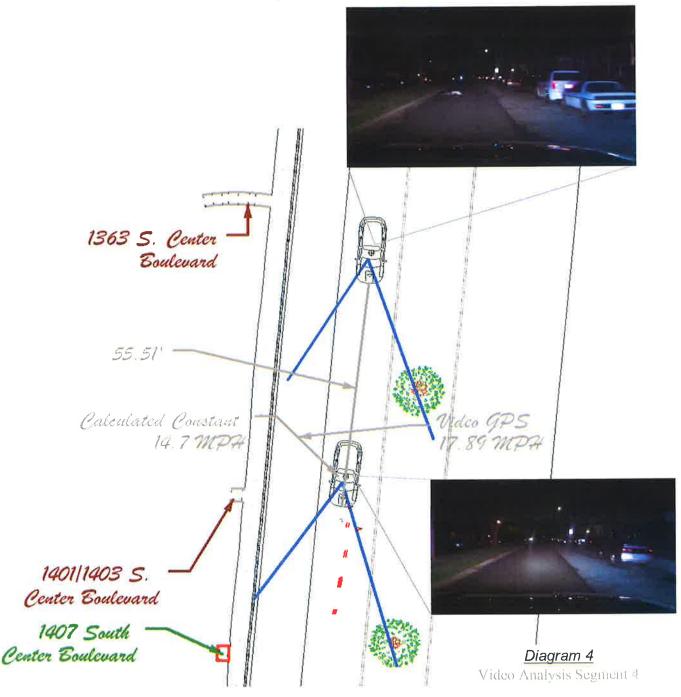


A further review of the video shows the speed of the cruiser continually slowing down as Officer Rosales approaches the correct address for the original call of a male shot. A fourth video segment was analyzed to determine a speed in which Eric Cole was struck.

3.6.1.4 Fourth Video Segment

This last segment will use the distance traveled between the second and third trees located in the center median of South Center Boulevard south of the intersection with Perrin Avenue. In the video the view of the camera reaches the second tree as a reference before the vehicle is perceived to be raising up on the left side, as to indicate Eric Cole is being ran over at that moment. The number of frames determined for this segment were 76.

 T_{total} (.03 * 76) = 2.53 seconds



The total time for this distance is 2.53 seconds. Then the actual distance between those reference points was found to be 55.51 feet. Then calculate the speed to travel that distance in that time:

Velocity= [Distance] / [Time] V=[55.51] / [2.53] = 21.91 fps or 14.95 MPH.

It should be noted the previous calculations determined a constant uniform speed over a known distance VI for a given time VII. This calculated constant uniform speed does not account for acceleration or deceleration inputs from the driver.

Therefore, it is understood the calculated speeds vary slightly from the speeds imbedded within the video of the cruiser camera. Moreover, the speeds imbedded within the video fluctuate as the video accounts for acceleration and deceleration inputs from the driver. This information is seen in the metadata of the video.

The calculated speeds show Officer Rosales was slowing as she crossed Perrin Avenue from South Center Street onto South Center Boulevard, as stated, looking for the house number 1407, responding to an individual that was shot.

4.0 Summary and Conclusion:

On June 13, 2021, officers with the Springfield Police Department were responding to a male shot at 1407 South Center Boulevard. Upon officers arrival the initial officer struck a pedestrian lying in the roadway. The pedestrian was later identified as the shooting victim, Eric Cole. Eric Cole was transported to a hospital and later succumbed to his injuries. It was later determined by the Montgomery County Coroner that the cause of death of Eric Cole was blunt force trauma of the torso and the manner of death as an accident.

The Springfield Post of the Ohio State Highway Patrol was requested by the Springfield Police Department to investigate the crash. Given the circumstances, the Crash Reconstruction Unit was requested to perform an in-depth crash investigation. The following are the conclusions derived from the in-depth crash investigation.

Any and all available officers with the Springfield Police Department were dispatched to a male shot on South Center Boulevard. Of those officers, Officer Rosales, responded in emergency, to include lights and siren.

While en route Officer Rosales was unaware of the correct address of the shooting victim. It was not until she specifically asked dispatch herself, that she received the correct address. While awaiting for the correct address, Officer Rosales is seen from the in car camera to pull over on South Center Street. After receiving the correct address, Officer Rosales continued south on South Center Street, crossed over Perrin Avenue to travel south on South Center Boulevard to the given address.

Once on South Center Boulevard, Officer Rosales began to look to the west for the house numbers and the one that displayed 1407.

As Officer Rosales continued south on South Center Boulevard she struck what was later identified as the shooting victim, Eric Cole who was lying in the roadway.

The general area in which Eric Cole was lying was in front of 1401/1403 South Center Boulevard as referenced from the blood located on the roadway.

A video analysis was completed, calculating the speeds of the cruiser. A uniform constant speed of 26 miles per hour was calculated as Officer Rosales turned onto South Center Boulevard and traveled south. It was also determined that Officer Rosales continued to slow to approximately 14.9 miles per hour prior to striking Eric Cole. These calculated speeds were a minimal difference compared to the integrated speeds from the in car dash camera. The in car dash camera displayed 27.56 miles per hour slowing to 17.89 miles per hour as Officer Rosales traveled south on South Center Boulevard.

Officer Rosales stated she did not see anyone in the roadway. It was not until she felt the impact that she immediately realized she hit something. It was measured that Officer Rosales came to a stop approximately 26-28 feet from the first area of blood located on the roadway. The location of the last blood transferred tire mark was in front of 1407 South Center Boulevard.

VI Measured within CrashZone (ver. 10.6.5)

VII Determined from Cruiser camera and frame rate